Meeting of the Central Valley Flood Protection Board
September 19, 2008

Draft Staff Report
DWR Floodway Protection Section

Item

Consider approval of Permit No. 18399 (Attachment A) to replace existing Denil fish ladder, two corrugated metal pipe culverts and one concrete culvert with a pool and chute fish ladder and four CMP culverts; abandon existing concrete culvert and wing wall structure and remove existing CMP culvert along the east levee of the Sutter Bypass at the Willow Slough Weir.

Applicant

Department of Water Resources, Division of Flood Management

Location

The project is located north of Robbins and east of Kirkville Road. (Sutter Bypass, Sutter County see Attachment B).

Description

To replace existing Denil fish ladder, two 60-inch-diameter corrugated metal pipe culverts and one 60-inch-diameter concrete culvert with a pool and chute fish ladder and four CMP 60-inch-diameter culverts; abandon existing concrete culvert and wing wall structure and remove existing CMP culvert along the east levee of the Sutter Bypass at the Willow Slough Weir.

Discussion

Willow Slough Weir is an integral part of the water management system of the Sutter Bypass. The weir is an earthen dam that was constructed between 1924 and 1925 to control water levels in the East Borrow Canal (EBC) for agricultural diversions. The structure consists of two-60-inch diameter corrugated metal pipe culverts and one 60-inch diameter concrete culvert that convey flow into Willow Slough from the EBC. A Denil fish ladder that was constructed in the 1980's provides anadromous fish passage between the two waterways. Flow through the culverts and fish ladder is controlled by manually operated slide gates.

Willow Slough Weir is not functioning effectively due to structural deterioration, sediment erosion and deposition. Furthermore, the existing culverts are undersized with respect to meeting required irrigation flows from the EBC into Willow Slough. The existing fish ladder does not meet current NOAA and DFG fish passage criteria and therefore must also be replaced.

Agency Comments and Endorsements:

- The U. S. Army Corps of Engineers endorsement has not been received but is anticipated to be received prior to the September 19, 2008 Board meeting.

- Sutter Maintenance Yard has endorsed this application.

CEQA Findings:

Board staff has prepared the following CEQA findings:

The Board, acting as a responsible agency under CEQA, has independently reviewed the Initial Study, Mitigated Negative Declaration and mitigation measures (June 2008) for the Department of Water Resources' (DWR), Sutter Bypass East Borrow Canal Water Control Structures Project (SCN 2008062058) prepared by the lead agency, DWR. The Initial Study, Mitigated Negative Declaration, and mitigation measures may be viewed or downloaded from DWR's Fish Passage Improvement, Lower Butte Creek Projects website at http://www.watershedrestoration.water.ca.gov/fishpassage/projects/lowerbutte.cfm.

The Initial Study evaluates two sites on the East Borrow Canal the Willow Slough Weir / Denil Fish Ladder and Weir No. 2. For purposes of application for U.S. Army Corps of Engineers Section 404 and Central Valley Flood Protection Board permits the project was split into two parts. The Willow Slough Weir and Denil Fish Ladder are the subject of this application while Weir No. 2 and fish ladder are the subject of application #18400. The two weirs are 14 miles apart on the East Borrow Canal and maintain water surface elevations on the canal that are adequate for irrigation diversions by water right holders.

Mitigation Measures

Mitigation measures were incorporated into the project design to reduce potentially significant impacts to less than significant. Mitigation measures are listed as follows:

- Fish Passage: At Willow Slough Weir, a temporary fish ladder will operate until the new fish ladder is complete.
- Fish Rescue and Relocation: DWR will rescue fish from cofferdammed construction areas by using seines and dipnets. Fish relocation operations are expected to minimize project impacts to all special-status fish species by

removing them from areas where they would have experienced high rates of injury or mortality.

- Water Conveyance: Normal flows will continue past construction areas to provide baseline conditions to aquatic resources downstream.
- Storm Water Pollution Prevention Plan (SWPPP) and a Spill Prevention and Countermeasure Plan: The implementation of a SWPPP and a Spill Prevention and Countermeasure Plan will greatly reduce the potential for these adverse effects to occur by implementing the best available preventative measures.
- Verify new fish ladder designs meet engineering specifications: The fish ladder designs were approved by NOAA Fisheries and DFG. DWR surveyors will ensure that ladders are built according to DFG and NOAA Fisheries-approved specifications.
- Verify hydraulic conditions in new fish ladders meet fish passage criteria: Physical measurements will be taken to verify that fish ladders meet NOAA Fisheries and DFG fish passage criteria for target fish species and lifestages.
- Verify fish are successful in navigating through fish ladder: Underwater imagery will be used to show successful passage of adult salmonids. The details of the fisheries monitoring plan will be created according to NOAA Fisheries needs.
- Pre-construction avian surveys will be conducted in the project area. If nests are found within or near the project area, DWR will consult with USFWS and/or DFG to implement protective measures.
- Obtain pre-project photographs of project area and surroundings: DWR will establish a baseline of conditions prior to construction activities
- Determine species composition and stand characteristics of existing vegetation that will be impacted: DWR will determine goals for the revegetation effort
- Mark off areas of vegetation that are to be avoided by construction machinery: DWR will restrict work areas to reduce impacts to vegetation from machinery and personnel.
- Conduct weekly inspection to ensure areas outside construction area have remained undisturbed: Inspections will reduce the chance of accidental disturbance.
- Re-plant riparian vegetation, with appropriate irrigation capabilities, at Willow Slough Weir: DWR will re-establish riparian and shaded riverine aquatic habitats.
- Conduct post-project monitoring surveys of re-planted vegetation: DWR will count and measure planted riparian vegetation to determine survivorship, species composition, and canopy cover.
- Restrict work windows to Giant Garter Snake (GGS) active season: The selected work window will avoid inactive (hibernating) snakes that could be injured by construction while they are unable to escape from underground dens

- Conduct an environmental awareness training session for construction personnel: A US Fish and Wildlife Service (USFWS) approved biologist will instruct workers on how to identify Giant Garter Snakes and their habitat, how they can minimize take of the snake, what to do if they encounter a snake, and any additional terms of environmental documents obtained for the project.
- Construction sites in streambeds will be dewatered for at least 15 days prior to start of construction in areas with Giant Garter Snake habitat: Dewatering will encourage any resident Giant Garter Snakes to leave the aquatic portion of the construction area.
- Project area will be surveyed for Giant Garter Snakes: A biological monitor will be available to determine if snakes are present in construction area. Surveys will be repeated if a lapse in construction activity of two weeks or greater occurs.
- If a Giant Garter Snake is observed, construction activities will be redirected to another portion of the project area until the snake has moved away on its own: This action will avoid take of Giant Garter Snakes.
- No plastic, monofilament, jute, or similar erosion matting that could entangle snakes will be used on the project site: This action will avoid injury to Giant Garter Snakes.
- The worksite will be kept free of trash that could attract predators of Giant Garter Snakes to the area: This action will avoid increasing predation on Giant Garter Snakes.
- After completion of construction activities, any temporary fill and construction debris will be removed: All uplands involved in the project (staging areas, construction sites, access roads, levees) will be restored using a native grass and forb seed mixture. This action will restore Giant Garter Snake habitat to pre-construction conditions.
- Conduct post-project monitoring surveys of re-seeded upland areas: DWR will measure cover and species composition to monitor revegetation and re-seed if necessary.

Impact Avoidance and Minimization Measures

Impact avoidance and minimization measures to waters of the United States and to federally listed species are summarized as follows:

- Size of construction area was reduced to minimize dewatered area and avoid impacts to streambed
- A temporary vehicle crossing required over Willow Slough was initially proposed to be a berm of ca. 4,000 cubic yards of imported fill material placed in Willow Slough, with culverts to allow flows and fish to pass. The design of the bridge was changed to a vehicle bridge that will rest on the stream banks with only one central piling support, avoiding impacts to Waters of the U.S. and to fish passage.

- Planned removal of mature riparian trees was eliminated to avoid impacts to riparian forest.
- Proposed staging areas were modified after consultation with U.S Army Corps of Engineers to exclude an intermittent stream channel tributary to Willow Slough Weir and avoid disturbance impacts to Waters of the U.S.
- The originally proposed plan to block fish passage temporarily during construction was abandoned, and a temporary fish ladder was designed and will be constructed around the Willow Slough Weir construction site.
- A proposed fish exclusion screen at the downstream entrance to Willow Slough was eliminated due to potential effects on Waters of the U.S. and on listed fish species.
- The boundaries of staging areas were modified to minimize impacts to Giant Garter Snake habitat by moving them farther from aquatic habitats.
- Project scheduling was altered to restrict construction to periods that would avoid impacts to Giant Garter Snake by restricting all activity to Giant Garter Snake active season.
- Best Management Practices were incorporated into project plan to minimize impacts to Waters of the U.S. caused by soil erosion
- All vehicle movement to/from construction site will be on existing roads to minimize impacts to Waters of the U.S.

Mandatory Findings of Significance

The project will not significantly change the existing environment because it is largely confined to previously disturbed areas, and the objective of the project is replacement of existing structures. The Willow Slough Weir project includes the loss of a small amount of shaded riparian habitat, but a mitigation and monitoring plan will ensure that the habitat is replaced. Loss of Giant Garter Snake habitat will be mitigated by purchasing replacement mitigation lands at an approved Giant Garter Snake mitigation bank. Potential impacts to other special-status fish, birds, reptiles, and plants have been identified but proposed avoidance and mitigation measures, which are described in the “Biological Resources” section of the Initial Study, will reduce or eliminate the potential impacts to less than significant or avoid them completely.

Based on its independent review of DWR’s Initial Study and Mitigated Negative Declaration the Board finds that although the proposed project could have significant environmental impacts there will be no significant impacts in this case because DWR has incorporated mandatory mitigation measures into the project plans that will reduce the level of significance to less than significant after mitigation.

Section 8610.5 Compliance

1. Evidence that the Board admits into its record from any party, State or local public agency, or nongovernmental organization with expertise in flood or flood plain management:

   The Board will make its decision based on the evidence in the permit application and attachments, this staff report, and any other evidence presented by any individual or group.

2. The best available science that related to the scientific issues presented by the executive officer, legal counsel, the Department or other parties that raise credible scientific issues.

   The accepted industry standards for the work proposed under this permit as regulated by Title 23 have been applied to the review of this permit.

3. Effects of the decision on the entire State Plan of Flood Control:

   This project has no effects on the State Plan of Flood Control.

   An important objective of the project is to improve regulation of flows through the weirs by replacing the existing water control structures with new structures. Flows in the East Borrow Canal are regulated primarily to alleviate flooding in the Sacramento Valley resulting from excessive flows in Butte Creek and the Sacramento and Feather Rivers, and to accommodate diversions by water right holders along the canal and allow landowners to drain their fields during certain times of the year. The project will not substantially alter flows in the East Borrow Canal or Willow Slough because the water surface elevation of these waterways will be regulated and maintained throughout the duration of the project.

4. Effects of reasonable projected future events, including, but not limited to, changes in hydrology, climate, and development within the applicable watershed:

   None.

Staff Recommendation

Staff recommends that the Board adopt the CEQA findings, approve the permit, and direct staff to file a Notice of Determination with the State Clearinghouse.

List of Attachments

A. Permit
B. Location maps and photos

Attachment A

DRAFT

STATE OF CALIFORNIA
THE RESOURCES AGENCY

CENTRAL VALLEY FLOOD PROTECTION BOARD

PERMIT NO. 18399 BD

This Permit is issued to:

Department of Water Resources, Division of Flood Management
3310 El Camino Avenue, Suite 110
Sacramento, California 95821-9000

To replace existing Denil fish ladder, two 60-inch-diameter corrugated metal pipe culverts and one 60-inch-diameter concrete culvert with a pool and chute fish ladder and four 60-inch-diameter CMP culverts; abandon existing concrete culvert and wing wall structure and remove existing CMP culvert along the east levee of the Sutter Bypass at the Willow Slough Weir. The project is located north of Robbins and east of Kirkville Road (Section 4&9, T12N, R3E, MDB&M, Sutter Maintenance Yard, Sutter Bypass, Sutter County).

NOTE: Special Conditions have been incorporated herein which may place limitations on and/or require modification of your proposed project described above.

(SEAL)

Dated: _____

_____
Executive Officer

GENERAL CONDITIONS:

ONE: This permit is issued under the provisions of Sections 8700 – 8723 of the Water Code.

TWO: Only work described in the subject application is authorized hereby.

THREE: This permit does not grant a right to use or construct works on land owned by the Sacramento and San Joaquin Drainage District or on any other land.

FOUR: The approved work shall be accomplished under the direction and supervision of the State Department of Water Resources, and the permittee shall conform to all requirements of the Department and the Central Valley Flood Protection Board.

FIVE: Unless the work herein contemplated shall have been commenced within one year after issuance of this permit, the Board reserves the right to change any conditions in this permit as may be consistent with current flood control standards and policies of the Central Valley Flood Protection Board.

SIX: This permit shall remain in effect until revoked. In the event any conditions in this permit are not complied with, it may be revoked on 15 day's notice.

SEVEN: It is understood and agreed to by the permittee that the start of any work under this permit shall constitute an acceptance of the conditions in this permit and an agreement to perform work in accordance therewith.

EIGHT: This permit does not establish any precedent with respect to any other application received by the Central Valley Flood Protection Board.

NINE: The permittee shall, when required by law, secure the written order or consent from all other public agencies having jurisdiction.

TEN: The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the State of California, or any departments thereof, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, the permittee shall defend and shall hold each of them harmless from each claim.

ELEVEN: The permittee shall exercise reasonable care to operate and maintain any work authorized herein to preclude injury to or damage to any works necessary to any plan of flood control adopted by the Board or the Legislature, or interfere with the successful execution, functioning or operation of any plan of flood control adopted by the Board or the Legislature.

TWELVE: Should any of the work not conform to the conditions of this permit, the permittee, upon order of the Central Valley Flood Protection Board, shall in the manner prescribed by the Board be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work herein approved.

SPECIAL CONDITIONS FOR PERMIT NO. 18399 BD

THIRTEEN: All work approved by this permit shall be in accordance with the submitted drawings and specifications except as modified by special permit conditions herein. No further work, other than that approved by this permit, shall be done in the area without prior approval of the Central Valley Flood Protection Board.

FOURTEEN: The permittee shall contact the Department of Water Resources by telephone, (916) 574-1213, and submit the enclosed postcard to schedule a preconstruction conference. Failure to do so at least 10 working days prior to start of work may result in delay of the project.

FIFTEEN: The permittee shall be responsible for repair of any damages to the Sutter Bypass due to construction, operation, or maintenance of the proposed project.

SIXTEEN: No construction work of any kind shall be done during the flood season from November 1 to April 15 without prior approval of the Central Valley Flood Protection Board.

SEVENTEEN: All cleared trees and brush shall be completely burned or removed from the Sutter Bypass, and downed trees or brush shall not remain in the Sutter Bypass during the flood season from November 1 to April 15.

EIGHTEEN: Temporary staging, formwork, stockpiled material, equipment, temporary buildings, and the temporary bridge shall not remain in the Sutter Bypass during the flood season from November 1 to April 15 without written approval from the Central Valley Flood Protection Board.

NINETEEN: Fill material shall be placed only within the area indicated on the approved plans.

TWENTY: Aggregate base material added to maintain the Sutter Bypass Levee shall be compacted to a relative compaction of not less than 95 percent per ASTM Method D1557-91, with a moisture content sufficient to obtain the required compaction.

TWENTY-ONE: The temporary bridge abutments shall be completely removed and disposed of outside the limits of the Sutter Bypass.

TWENTY-TWO: All debris generated by this project shall be disposed of outside the Sutter Bypass.

TWENTY-THREE: The work area shall be restored as close as possible to the condition that existed prior to start of work.

TWENTY-FOUR: After each period of high water, debris that accumulates at the site shall be completely removed from the Sutter Bypass.

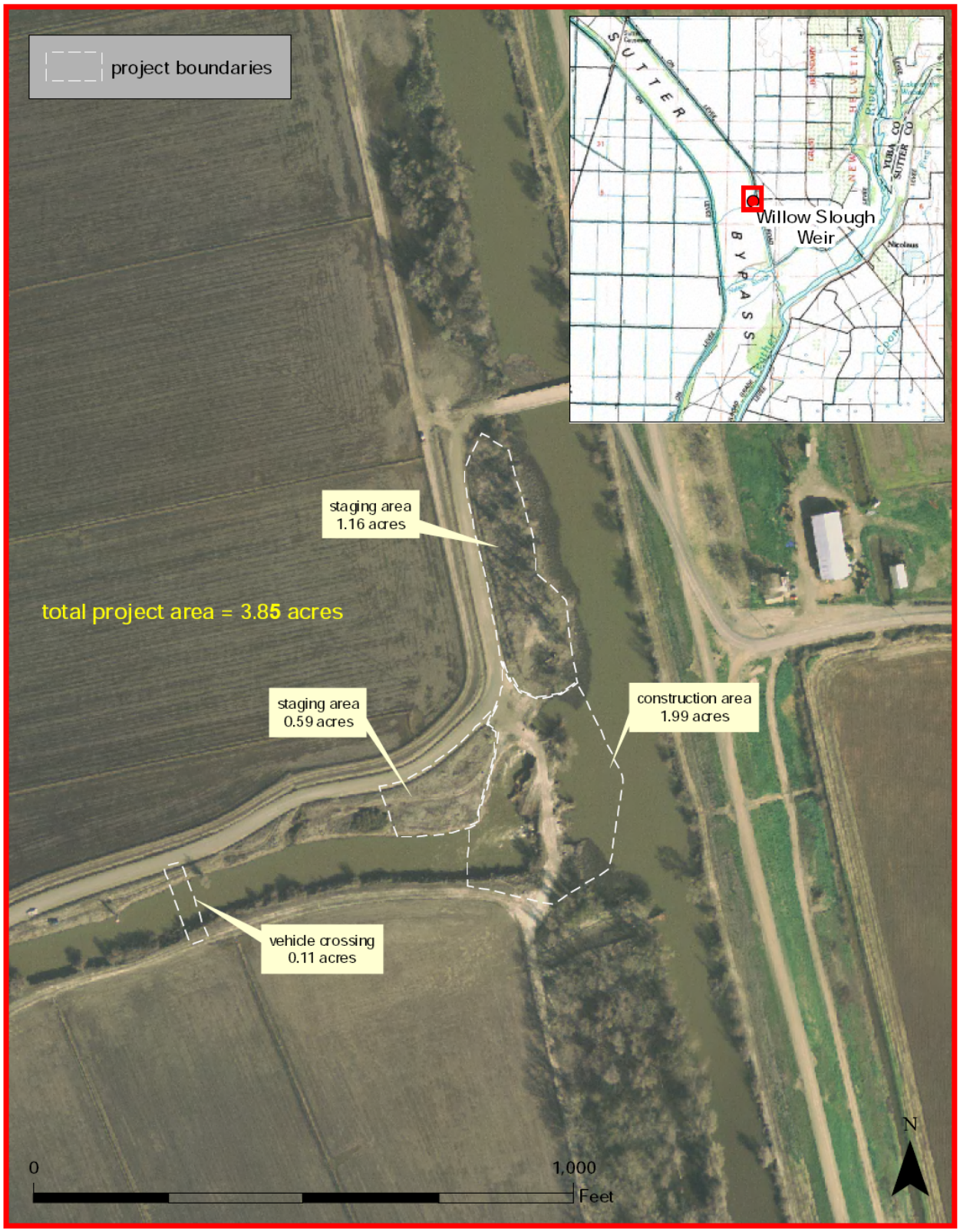
TWENTY-FIVE: The Central Valley Flood Protection Board may require clearing and/or pruning of trees planted within the floodway in order to minimize obstruction to floodflows.

TWENTY-SIX: If the project, or any portion thereof, is to be abandoned in the future, the permittee or successor shall abandon the project under direction of the Central Valley Flood Protection Board at the permittee's or successor's cost and expense.

TWENTY-SEVEN: If the project results in an adverse hydraulic impact, the permittee shall provide appropriate mitigation measures, to be approved by the Central Valley Flood Protection Board, prior to implementation of mitigation measures.

TWENTY-EIGHT: The permittee may be required, at permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted project if removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with any present or future flood control plan or project or if damaged by any cause. If the permittee does not comply, the Central Valley Flood Protection Board may remove the permitted project at the permittee's expense.

TWENTY-NINE: The permittee shall comply with all conditions set forth in the letter from the Department of the Army dated September XX, 2008, which is attached to this permit as Exhibit A and is incorporated by reference.


project boundaries
SUTTER
BYPASS
Willow Slough
Weir
staging area
1.16 acres
total project area = 3.85 acres
staging area
0.59 acres
construction area
1.99 acres
vehicle crossing
0.11 acres
N
0
1,000
Feet

Attachment B